WHAT IS CLAIMED IS:

1. An impedance transformation network comprising:

an input node to receive an output signal;

an output node to transmit the output signal;

a fixed impedance transformation circuit connected between the input node and the output node, the fixed impedance transformation circuit being configured to provide a fixed impedance transformation to partially transform a first impedance at the output node to a second impedance at the input node; and

a varactor device connected in series between the input node and the output node, the varactor device being configured to provide a variable impedance transformation in response to a power level of the output signal to partially transform the first impedance at the output node to the second impedance at the input node.

2. The impedance transformation network of claim 1 wherein the varactor device includes a ferroelectric varactor connected in series between the fixed impedance transformation circuit and the output node.

3. The impedance transformation network of claim 1 wherein the varactor device includes a plurality of stacked ferroelectric varactors connected in series between the fixed impedance transformation circuit and the output node.

4. The impedance transformation network of claim 1 wherein the fixed impedance transformation circuit includes at least one transmission line on a signal path between the input node and the output node and at least one shunt capacitor connected to the signal path.

5. The impedance transformation network of claim 4 wherein the shunt capacitor is a chip capacitor.

6. The impedance transformation network of claim 4 wherein the fixed impedance transformation circuit includes at least one additional transmission line on a second signal path between a supply voltage terminal and the signal path and at least one additional shunt capacitor connected to the second signal path, the second signal path at least partially being used to supply DC bias voltage to the varactor device.

7. The impedance transformation network of claim 7 wherein the additional shunt capacitor is a surface mount technology capacitor.

8. A method of transmitting an output signal to an output node, the method comprising:

receiving the output signal at an input node; and

providing a variable impedance transformation between the input node and the output node using a varactor device connected in series between the input node and the output node, the variable impedance transformation being provided in response to a power level of the output signal to transform a first impedance at the output node to a second impedance at the input node.

9. The method of claim 8 wherein the varactor device includes a ferroelectric varactor connected in series between the input node and the output node.

10. The method of claim 8 wherein the varactor device includes a plurality of stacked ferroelectric varactors connected in series between the input node and the output node.

11. The method of claim 8 wherein the receiving of the output signal included receiving a radio frequency output signal at the input node.

12. The method of claim 8 further comprising providing a fixed impedance transformation between the input node and the output node.

13. The method of claim 12 wherein the fixed impedance transformation is provided by at least one transmission line on a signal path between the input node and the output node and at least one shunt capacitor connected to the signal path.

14. The method of claim 13 wherein the fixed impedance transformation is further provided by at least one additional transmission line on a second signal path between a supply voltage terminal and the signal path, the second signal path at least partially being used to supply DC bias voltage to the varactor device.

15. A power amplifier comprising:

an amplifier configured to provide an output signal; and

an impedance transformation network including an input node and an output node, the input node being connected to the amplifier, the output node to be connected to a load, the impedance transformation network further including a varactor device connected in series between the input node and the output node, the varactor device being configured to provide a variable impedance transformation in response to a power level of the output signal to transform a load impedance at the output node to a desired impedance in a forward direction at the input node, the forward direction being from the input node to the output node.

16. The power amplifier of claim 15 wherein the varactor device includes a ferroelectric varactor connected in series between the input node and the output node.

17. The power amplifier of claim 15 wherein the varactor device includes a plurality of stacked ferroelectric varactors connected in series between the input node and the output node.

18. The power amplifier of claim 15 wherein the amplifier is configured to provide a radio frequency output signal.

19. The power amplifier of claim 15 wherein the impedance transformation network comprises a fixed impedance transformation circuit connected to the input node and the varactor device, the fixed impedance transformation circuit including at least one transmission line on the signal path and at least one shunt capacitor connected to the signal path.

20. The power amplifier of claim 19 wherein the fixed impedance transformation circuit includes at least one additional transmission line on a second signal path between a supply voltage terminal and the signal path and at least one additional shunt capacitor connected to the second signal path, the second signal path at least partially being used to supply DC bias voltage to the varactor device.